REMARKS

This Amendment is responsive to the outstanding Office Action mailed August 24, 2005. Claims 1-4 and 13 were previously withdrawn from further consideration. Claims 5-12, 14, and 15 remain pending in this application. Through this amendment, claims 5 and 10 have undergone minor changes by adding the word "and" before the recitation of the final element in each claim. This change is purely cosmetic and no change in scope of the claim has thereby occurred.

Claim Rejections - 35 U.S.C. § 103(a)

In the Office Action mailed August 24, 2005, pending claims 5-12, 14, and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Lackritz et al. ("Lackritz") (US 2001/0031122A1) in view of Bogdanowicz et al, ("Bogdanowicz") (US 5555085A).

Claim 5 is directed to a method for selecting the constituents for a photocuring system in which light can interact with chemicals in the materials to be bonded. A photocuring system requires at least three elements complimentary to one another: a light source, a photoinitiator, and a polymerizable material. The photoinitiator absorbs light and initiates a chemical reaction resulting in polymerization. One primary requirement for photocuring is that the wavelength of light for initiating the chemical reaction in the various components to be bonded must be substantially similar to the wavelength of the light source. However, curing by polymerization is hampered by all of the choices available for selecting the complementary elements. The present invention assists in the identification and selection of a plurality of complementary elements, i.e., the light source, the photoinitiator, and the ploymerizable material that may be effectively used in combination. The method uses a database to guide the user through the selection process by eliminating non-matching components. Additionally, the user is provided the option of selecting a plurality of combinations that are relatively most compatible and rejecting combinations which are relatively least compatible.

Having thoroughly reviewed Lackritz, Applicants respectfully submit that the disclosure of Lackritz actually teaches away from the Applicants' invention, contrary to the Examiner's assertion. Lackritz teaches "methods for producing optical waveguides, and other such components or devices which require patterns of altered index of refraction or thickness in transparent polymer multilayer structures." (¶ 0004) To accomplish this, Lackritz states:

> "...the process for creating an optical polymeric waveguide may comprise the steps of: (a) creating an optical multiple layer stack, mechanically and

chemically stabilized e.g. by activating a first type of photosensitive molecule by exposure to a first wavelength, which may be, for example, visible light, causing sufficient linking of the polymer molecules to at least prevent the layers of the stack from flowing; (b) patterning with a second wavelength of light, for example with ultraviolet (UV) light, the second wavelength activating a second type of photosensitive molecule which enable an optical waveguide to be defined; (c) optionally enhancing the diffusion or crosslinking process by, for example, baking the optical stack; and (d) locking the final structure permanently, with a third wavelength of light, a wavelength which may be different from the second wavelength used, for example with ultraviolet light. The aim of this step is to activate at least any of the first type of photosensitive molecule, and preferably any of the second type of photosensitive molecule that have not previously been activated, effectively locking the final structure and substantially preventing future unwanted refractive index changes." (¶ 0029) (Emphasis added.)

As can be seen, Lackritz requires at least two, or more, substantially different wavelengths of light for creating and finalizing the structure of an optical polymeric waveguide. A first wavelength of light is used for activating a first type of photosensitive molecule. Next, a second wavelength of light, substantially different from the first wavelength of light, is required for activating a second type of photosensitive molecule. It is therefore apparent that in order to activate the second type of photosensitive molecule, the second wavelength of light must be substantially different from the first wavelength of light. It is further apparent that if the second wavelength of light is substantially similar to the first wavelength of light, then the second type of photosensitive molecule will not be activated. Finally, for locking in the final structure, "...a third wavelength of light, a wavelength which may be different from the second wavelength..." is required "...to activate at least any of the first type of photosensitive molecule, and preferably any of the second type of photosensitive molecule that have not previously been activated..." Lackritz in fact repeats this concept in paragraphs 0038 and 0039.

Therefore, it is again apparent that Lackritz requires at least two, or more, substantially different "wavelength of light" for creating and finalizing the structure of an optical polymeric

waveguide. As such, Lackritz does not teach or suggest the presently claimed method for optimizing performance of a light curing polymer system using a single light source and the present rejection of claims 5 and 10 is therefore traversed.

Further, the Examiner acknowledges that Lackritz does not explicitly teach a "database". To overcome this hole in the rejection, the Examiner has cited Bogdanowicz. The Examiner cites Bogdanowicz as teaching a database for storing filter transmittance data from the light source. The applicant notes that while Bogdanowicz discloses selection of filters for use in photographic applications, it does not use the word "photoiniator" or "polymer" anywhere in the application. It is unclear what motivation, even including the impermissible use of the present application, would lead one of ordinary skill in the art of building light curing polymer systems to solutions in the photographic arts. Bogdanowicz adds nothing other than the word database to the rejection and there is no motivation to combine the teachings of Bogdanowicz with the teachings of Lackritz. Further, the combination is still missing the elements noted above with respect to the discussion of Lackritz. For these additional reasons, the rejection of claims 5 and 10 is traversed.

Claims 6 & 7 have been rejected under 35 U.S.C. 103 as obvious from Lackritz in light of Bogdanowicz. Claim 6 adds the concept of breaking up wavelength data into regions and naming each region. Claim 7 adds the concept of identifying the wavelength regions for each component stored in the data base with a name for each region identified for that component.

The Examiner has cited Lackritz at paragraphs 0007, 0008, 0042 and 0052 as teaching the naming of wavelength regions within the database. Applicant's review of the noted paragraphs (indeed the entire document) showed no naming of wavelength regions within a database, only a very general discussion of light. Bogdanowicz is not cited for this proposition, nor can it be as it also does not teach naming of wavelength regions. Accordingly, this rejection is traversed.

Further, there has been no prima facie rejection of claim 7 made. Claim 7 requires application of the wavelength region names to component data stored in the database. The Examiner has not cited any prior art that applies wavelength region names to components. Accordingly, the applicant respectfully requests withdrawal of this rejection or explanation of how the Examiner is applying the art specifically to claim 7.

Lastly, because claims 6 & 7 depend from allowable claim 5, claims 6 & 7 are allowable as well.

Claims 8 has been rejected as obvious from Lackritz in light of Bogdanowicz. Claim 8 recites further process whereby representative names for a first component are compared to representative names of a second component and only second components having a representative name in common with a representative name in the first component can be selected. The Examiner has cited Lackritz paragraphs 0034, 0053, 0056 as teaching the same structure. A careful reading of these paragraphs shows no discussion of comparing names in a database and selection of components only if they have a representative name in common. In fact, paragraph 56 of Lackritz teaches away from this concept in that it requires two types of photosensitive molecules having "different spectral responses." Because none of the process recited in claim 8 is taught or suggested by the paragraphs referenced by the Examiner, the rejection of claim 8 is traversed. Further, because claim 8 is dependent upon allowable claim 5 (through allowable claims 6 and 7), claim 8 is allowable as well.

Claim 9 has been rejected as obvious from Lackritz in light of Bogdanowicz. Claim 9 adds the additional step of selection of a third component having at least one set of wavelengths present in the first set of wavelengths. For all of the reasons stated in the of discussion claims 5-8, the rejection of claim 9 is traversed.

Claim 10 has been rejected as obvious from Lackritz in light of Bogdanowicz. Claim 10 is directed to a process of comparing characteristics of components in a light curing polymer system. First and second components are selected and the component name and wavelength response of both are displayed. The Examiner has cited Bogdanowicz at col. 5, lines 57- 61 and col. 6, lines 16-30 as teaching the graphical display of the wavelength response and name of first and second components. Col. 5 lines 57-61, however, discuss multiplication of the spectral transmittance of a filter and use of the product as a virtual light source. It is unclear to the applicant how this shows display of wavelength response of two selected components in a light curing system. Col. 6 lines 16-30 discuss display of data on a photographic sensitometric curve as shown in Fig. 3. Fig. 3 does not compare wavelength regions of components in a curing system but instead shows log exposure changes versus density for selected color values. This is in no way related to display of wavelength responses of components of a light curing polymer system. Because the prior art cited by the Examiner does not teach or suggest that which is cited for by the Examiner, the rejection is traversed.

Further, as noted above in connection with Claim 5, it is unclear as to why one of ordinary skill in the art of light curing polymer systems would look to Bogdanowicz and its discussion of a system

and method for rapid measurement of an exposure light source for any teaching. As a result, Bogdanowicz is not properly combinable with Lackritz and the present rejection is traversed.

Claims 11 and 12 have been rejected as obvious from Lackritz in light of Bogdanowicz. Claim 11 requires the additional process of determining an area of an overlapping region of wavelength responses. Claim 12 requires the determination of the area of overlap be performed using a sum of the rectangles under the overlapping curves method. The Examiner cites Lackritz as teaching this at paragraph 94. Paragraph 94 is directed to the structure of a "Bragg grating" and does not use the words "area," "sum" or "rectangle" anywhere in the paragraph. No calculation of an area is described. Because neither reference cited teaches or suggests the concept of determining an area of an overlapping region of wavelengths between two components in a light curing system, the present rejection is traversed. Further, because claims 11 and 12 depend from allowable claim 10, claims 11 and 12 are allowable as well.

Claims14 and 15 have been rejected as obvious from Lackritz in light of Bogdanowicz. Claims 14 and 15 depend from claims 5 and 10 respectively and add the further process steps of displaying a set of first components and a set of second components where each member of the set of second components displayed has at least one wavelength region in common with the members of the set of first components displayed. The Examiner cites Bogdanowicz as teaching these steps. However, the passages cited by the Examiner leave out two important points.

First, nowhere does Bogdanowicz teach or suggest that a list of first and second components is ever displayed. Second, nowhere does Bogdanowicz teach or suggest that selection of a set of second components in the database for display is based on an attribute of first components in the database that are being displayed. This is because the light source data as described and used in Bogdanowicz is based on a measurement made by the device, not a stored database of light sources. Accordingly, Bogdanowicz does not teach or suggest the process steps as in claims 14 and 15 and the rejection is traversed. Further, since claims 14 and 15 depend from allowable claims 5 and 10 respectively, claims 14 and 15 are allowable as well.

CONCLUSION

Applicants respectfully submit that pending claims 5-12, 14, and 15 are in condition for allowance. Reconsideration and passage to allowance are requested.

Respectfully Submitted,

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